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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,810

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EXAMINER

HU, HENRY S

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/559,810	<b>Applicant(s)</b> UEDA ET AL.	
	<b>Examiner</b> HENRY S. HU	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### DETAILED ACTION

1. This Application **10/559,810** is from **371/JP04/08234** with a Japanese priority at June 9, 2003. **Pre-Amendment** and **three IDS'** (1 page each) were filed so far. Such an amendment is only used to remove the improper multiple claim dependency.

This Office Action is in response to **Election** filed on January 30, 2008. **Applicant's election of Group I (Claims 1-5) is made without traverse** by Attorney Abraham J. Rosner. **Claims 1-8 are now pending** with only **one** independent claim (Claim 1), while non-elected Group II (Claim 6) and Group III (Claims 7 and 8) are both withdrawn from consideration. An action follows.

See **six "X" cited references** in international search report for Applicants' **two papers** **WO 2005/097850 A1 and EP 1,743,910 A1 for PCT/JP2005/006768.**

### *Claim Objections*

2. **Claim 2 is objected to** because of the following informalities:

On **Claim 2** at line 4, the writing as "selected from the group consisting of a silane group, a phosphate group, a carboxylate group, **sulfate group** and a glycidyl group" is better changing to " selected from the group consisting of a silane group, a phosphate group, a carboxylate group,

**a sulfate group** and a glycidyl group " according to the writing of Markush language.

Additionally, the type as sulfate group may have a typographical error. According to **page 7 at line 8** of specification, only the sulfonate (not the sulfate) group is mentioned.

Applicants need to confirm in this regard.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. The limitation of parent **Claim 1** in present invention relates to **a fluorine-containing polymer for a masonry treatment**, comprising **two** components including:

*(A) a fluorine-containing monomer having a formula (I)  $R_f-Y-O-C(=O)-CX=CH_2$  with all the three factors X, Y and  $R_f$  as specified, and*

*(B) a monomer containing a functional group reactive with active hydrogen.*

According to the limitation of its dependent **Claim 2**, *said functional group is selected from the group consisting of a silane group, a phosphate group, a carboxylate group, a sulfate group and a glycidyl group.*

*See other limitation of dependent Claims 2-5.*

5. **Claims 1-5 are rejected** under 35 U.S.C. 103(a) as obvious over **Takanobu et al. (JP 2002-105433)**, **Wataru et al. (JP 05-017538)** or **Naoki et al. (JP 11-124419)**, each individually in view of **Ohmori et al. (EP 247,489 A2)** and/or **Tsunenori et al. (JP 2003-154307)**.

Regarding “fluorocopolymer for masonry treating” limitation of parent **Claim 1**, each of **Takanobu, Wataru and Naoki** (all three are cited as “X” references in international search report for Applicants’ **two priority papers WO 2005/097850 A1 and EP 1,743,910 A1 for PCT/JP2005/006768**) has individually disclosed the preparation of a water-soluble fluorocopolymer, which at least comprising fundamentally the claimed **two monomers (A) and (B)** so as to treat the surface of at least some porous substrates including masonry type.

6. To be specific, see **Takanobu**’s formula (1) fluorinated monomer for the claimed monomer (A) at abstract; paragraphs 0016 and 0017; see formula (2) anionic vinyl monomer for

the claimed monomer (B) at paragraphs 0013 and 0028. See the type of substrate at paragraph 0001.

Regarding **Wataru**, see formula (A) 6-12C alkyl group-having perfluoroalkyl acrylate monomer for the claimed monomer (A) at abstract; paragraphs 0013 and 0014; see formula (B) carboxy group-containing ethylenic unsaturated monomer for the claimed monomer (B) at abstract; paragraph 18. See the type of substrate at paragraph 0002.

Regarding **Naoki**, see formula (A-II) 6-12C alkyl group-having fluoroalkyl acrylate monomer for the claimed monomer (A) at abstract; paragraph 0008; see formula (C) carboxy group-containing ethylenic unsaturated monomer for the claimed monomer (B) at abstract. See the type of substrate at paragraph 0001. It is a fact that open language “comprising” is applied to the claimed fluorocopolymer in parent Claim 1.

7. According to the limitation of dependent **Claim 2**, the functional group (which is reactive with active hydrogen) in parent Claim 1 is selected from the group consisting of **a silane group, a phosphate group, a carboxylate group, a sulfate group and a glycidyl group**. Therefore, each of Takanobu, Wataru and Naoki is “only” silent about using the fluorinated monomer having formula (I) with the X substituent being not a hydrogen atom but is specifically a fluorine, a chlorine, a bromine, an iodine, a CFX<sub>1</sub>X<sub>2</sub> or a cyano group.

8. **Two** secondary references **Ohmori and Tsunenori** in combination or alone may have taught such a subject matter. **Ohmori** has disclosed that in the course of making fluorine-containing water- and oil-repellant composition, the X substituent in the same position of double bond can be **a fluorine atom or a CFX<sub>1</sub>X<sub>2</sub> group** (see page 4, line 17-22; particularly see line 17-19; abstract, line 1-15). By doing so, the advantage is that good adhesion can be achieved to the articles to be treated (page 1, line 4-6).

Regarding the use of different type X at the same position of double bond, **Tsunenori has disclosed the functional equivalence and interchangeability among hydrogen atom, methyl group and fluorine atom** (see paragraphs 0024-0033; particularly see compound 10 with fluorine atom, and compound 18 with hydrogen atom).

9. In light of the fact that “**at least some**” of **Ohmori and/or Tsunenori’s acid-containing monomers are structurally reading on the monomers disclosed on instant Claim 2** and the fluorocopolymers are for the same or similar substrate protection purpose, one having ordinary skill in the art would therefore have found it obvious to modify Takanobu, Wataru or Naoki’s process of making fluorocopolymers on the treatment masonry substrate by **adding or replacing with F- or CFX<sub>1</sub>X<sub>2</sub>-substituted fluoromonomer** as taught by Ohmori and/or Tsunenori. By doing so, one would expect that all species in the same genus (fluoromonomer) would succeed based on functional equivalence and interchangeability. Additionally, more diversified and durable product can be thereby obtained with better adhesion.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a fluorine-containing polymer (to be useful for treating a masonry) comprising three monomers as specified:

**US 4,366,300 to Delescluse** only discloses using a liquid composition for the protection of materials (includes **cement or brick**; see abstract, line 12) against contaminations, spots and stains. The composition comprises a fluororesin (a copolymer) based on **a fluorinated acrylic or methacrylic monomer** (the claimed monomer A). See abstract, line 1-7; column 4, line 13 – column 5, line 49; particularly see formula III, IV and V. However, acid-containing monomer (the claimed monomer B) is NOT included in the copolymer at all. Therefore, Delescluse fails to teach or fairly suggest Claim 1 of present invention.

11. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Dr. Henry S. Hu whose telephone number is (571) 272-1103. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300 for all regular communications.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

//Peter D. Mulcahy//

Primary Examiner, Art Unit 1796

/Henry S. Hu/  
Examiner, Art Unit 1796

March 31, 2008